

# Development of Wideband, Dual Polarized L-Band Array Antenna for Digital Beam forming SAR

Completed Technology Project (2011 - 2012)



## Project Introduction

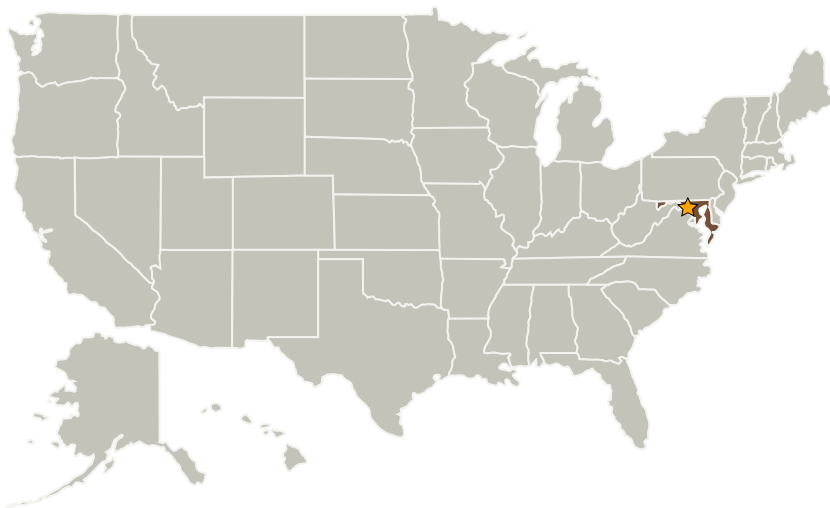
A novel printed antenna design concept to show that it is possible to achieve 50% or more antenna bandwidth. The main objective can be divided into following sub-goals: Design & Validate performance of an extra-wideband dual polarized wideband L-band radiating element. Extend design, fabricate, and test 8-element linear array.

Using analytical methods to conceptualization L-band antenna structures that offer potentials of wideband operation. Perform extensive computer simulations on these antenna structures for their RF performances. Select optimum design for final fabrication and testing.

## Anticipated Benefits

Capability to Observe Earth Science Parameters at High Resolutions

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

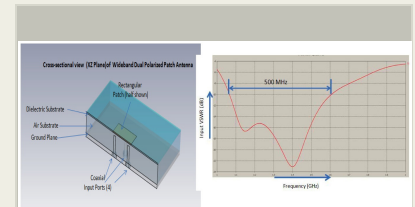


Figure 1: Wideband, dual polarized L-band radiating element

Project Image Development of Wideband, Dual Polarized L-Band Array Antenna for Digital Beam forming SAR

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## Primary U.S. Work Locations

Maryland

## Images

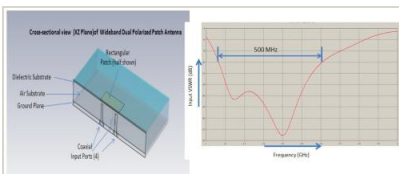


Figure 1: Wideband, dual polarized L-band radiating element

**5269.jpg**

Project Image Development of Wideband, Dual Polarized L-Band Array Antenna for Digital Beam forming SAR

(<https://techport.nasa.gov/image/1330>)

## Project Website:

<http://aetd.gsfc.nasa.gov/>

## Organizational Responsibility

### Responsible Mission Directorate:

Mission Support Directorate (MSD)

### Lead Center / Facility:

Goddard Space Flight Center (GSFC)

### Responsible Program:

Center Independent Research & Development: GSFC IRAD

## Project Management

### Program Manager:

Peter M Hughes

### Project Manager:

Terence A Doiron

### Principal Investigator:

Manohar D Deshpande

### Co-Investigators:

Quenton Bonds

Temilola E Fatoyinbo Agueh

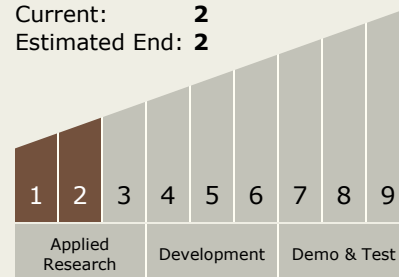
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## Technology Maturity (TRL)

Start: **1**  
Current: **2**  
Estimated End: **2**



## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.2 Observatories
    - └ TX08.2.2 Structures and Antennas